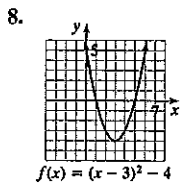
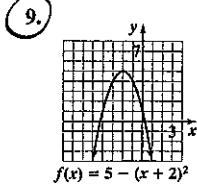


## Mid-Chapter 2 Check Point

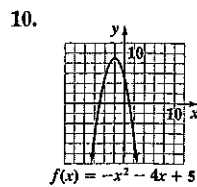
1.  $-1 - i$     2.  $-3 + 6i$     3.  $7 + i$     4.  $i$     5.  $3i\sqrt{3}$     6.  $1 - 4i\sqrt{3}$     7.  $\frac{3}{4} \pm i\frac{\sqrt{23}}{4}$



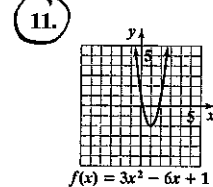
$f(x) = (x-3)^2 - 4$   
domain:  $(-\infty, \infty)$   
range:  $[-4, \infty)$



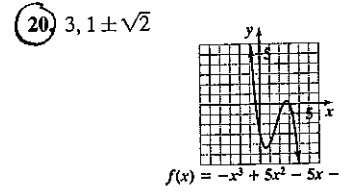
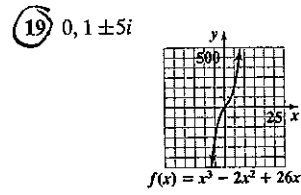
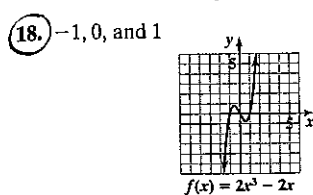
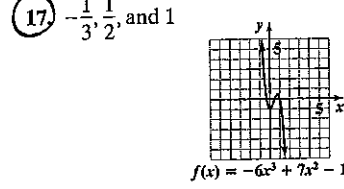
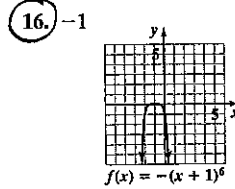
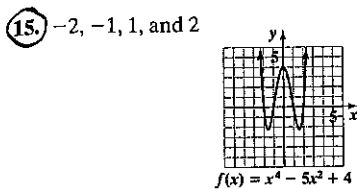
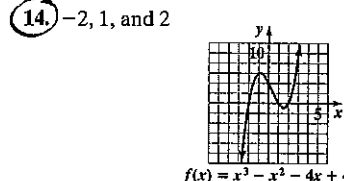
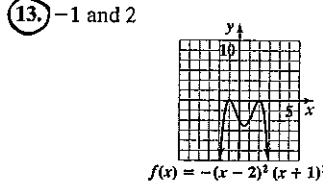
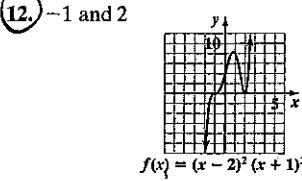
$f(x) = 5 - (x+2)^2$   
domain:  $(-\infty, \infty)$   
range:  $(-\infty, 5]$



$f(x) = -x^2 - 4x + 5$   
domain:  $(-\infty, \infty)$   
range:  $(-\infty, 9]$



$f(x) = 3x^2 - 6x + 1$   
domain:  $(-\infty, \infty)$   
range:  $[-2, \infty)$



21.  $\{-2, 1\}$     22.  $\{\frac{1}{3}, \frac{1}{2}, 1\}$     23.  $\{-\frac{1}{2}, \frac{2}{3}, \frac{7}{2}\}$     24.  $\{-10, -\frac{5}{2}, 10\}$     25.  $\{-3, 4, \pm i\}$     26.  $\{-3, \frac{1}{2}, 1 \pm \sqrt{3}\}$

27. 75 cabinets per day; \$1200    28. -9, -9; 81    29. 10 in.; 100 sq in.    30.  $2x^2 - x - 3 + \frac{x+1}{3x^2-1}$     31.  $2x^3 - 5x^2 - 3x + 6$

32.  $f(x) = -2x^3 + 2x^2 - 2x + 2$     33.  $f(x) = x^4 - 4x^3 + 13x^2 - 36x + 36$     34. yes